

2005 Virginia Interoperability Communications Conference

October 4-5, 2005

Virginia Beach, Virginia



Project 25 Update

Craig Jorgensen
P25 Steering Committee

Property of Project 25

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STATEWIDE AGENCIES RADIO SYSTEM

2005 Virginia Interoperable Communications
Conference
October 4-5, 2005



Scope of the STARS Contract

Colonel W. Steven Flaherty, State Police Superintendent and Mark Moon, Vice President and General Manager of Motorola signed a \$329-million contract between Motorola and the Commonwealth of Virginia for the design, construction, and implementation of Statewide Agencies Radio System (STARS) on July 13, 2004. The implementation phase of STARS is now underway.

Scope of the STARS Contract Continued

- STARS will provide multi-channel trunked digital voice and data wireless communications that is specifically designed for public safety requirements, based on Project 25 technology.
- The existing state police microwave radio network's technology and capacity will be upgraded and disaster recovery alternate paths will be added.
- The STARS contract will provide essential public safety grade communications that can operate seamlessly throughout the Commonwealth for the 21 state agencies and facilitate interoperability with local governments and federal agencies.



Motorola is providing VHF and 800 MHz wireless communication coverage for six tunnels in the Commonwealth of Virginia: Big Walker Mountain, Hampton Roads, Elizabeth River Downtown, Elizabeth River Midtown, Monitor/Merrimack, East River Mountain.



Mobile Data Applications

The Mobile Data Computers installed in patrol cars will provide the following to the Commonwealth, statewide:

- Law enforcement mobile data such as wanted checks and DMV records checks
- Intra-agency and inter-agency text messaging
- Interface with the VSP Computer Aided Dispatch (CAD)
- Automated Vehicle Location (AVL)



Network Operations Center

The Network Operations Center at the State Police Headquarters will house personnel on a 24/7 basis to identify faults, remotely correct alarm conditions or dispatch technicians. An existing VSP warehouse will be refurbished for the NOC.

Transmitter Sites

The transmitter sites in STARS will consist of 45 Land Mobile Radio towers sites and 94 microwave tower sites. These sites will support the land mobile radio voice, microwave radio, and the mobile data subsystems.

Each site's communications equipment is housed in a protective building, and is monitored for technical functions and is protected with emergency power systems and sophisticated grounding systems to protect from lightning damage.



Participating Agencies

Alcoholic Beverage Control

Capitol Police

Charitable Gaming

Chesapeake Bay Bridge &

Tunnel Police

Conservation and Recreation

Corrections

Emergency Management

Environmental Quality

Fire Programs

Forestry

Game and Inland Fisheries

Health

Juvenile Justice

Military Affairs

Mines, Minerals, and Energy

Motor Vehicles

State Police

Transportation

Virginia Information Technologies Agency

Virginia Marine Resources Commission

Virginia Port Authority

Federal Partnership for Interoperable

Communications



Agencies no longer participating in STARS:

- Aviation The land based radios will not benefit the aircraft they use. Note: They had 3 radios
- Professional and Occupational Regulation Agency is moving away from law enforcement, more towards regulation and no longer require law enforcement radios. Note: They had 8 radios



New Agencies

The following agencies have been approved for STARS participation:

- Charitable Gaming They have approximately 10 enforcement officers with no radio communications currently.
- Chesapeake Bay Bridge & Tunnel Police Their existing radio system does not serve their needs, STARS can provide the service they require.
- Virginia Port Authority They require a radio system upgrade that STARS can provide.



Expenditures

July 2004 -	June 2005	(Actual)
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July 2005 – June 2006 (Projected)

2004 – 2006 Expenditures

July 2006 – June 2007 (Projected)

July 2207 – June 2008 (Projected)

Total Project Cost

\$ 39,747,311

119,552,689

\$159,300,000

\$119,818,158

\$ 80,127,375

\$199,945,533

\$359,245,533



Implementation Schedule

The STARS Project is scheduled to be implemented over a six year period.

Operational Stages

- Richmond -- December 2005
- Tidewater -- May 2008
- Culpeper -- July 2008
- Northern Virginia -- October 2008
- Salem -- April 2009
- Appomattox -- May 2009
- Wytheville -- September 2009



- The Network Operations Center (NOC) is under construction. It will house personnel 24/7 to monitor the network alarms and controls.
 - The building is complete.
 - Motorola has moved equipment in.
 - The building will be ready for occupancy by October 21.

Transmitter Sites

- 20 towers are required for First Division. Permits for 19 towers have been received. The Rumford VDOT tower had to be relocated. New permits have been applied for.
- 16 of the 20 towers are complete. They are now being optimized.



Accomplished Continued

- Zone Two Control Center in Salem
 - The space needs have been identified. HSMM is beginning the preliminary sketches.
- Site Surveys
 - The transmitter sites in Divisions Five, Two, and Seven have been completed.
 - The transmitter sites in Divisions Three and Six will be surveyed, beginning in the in the next 30 days.



- The acceptance test procedures for First Division have been developed.
 - The majority have been submitted for STARS review.
- Training Significant STARS training has been completed for the following personnel in 2005.
 - Executive and UARC agencies management
 - Communications engineers and technical staff
 - STARS engineers
 - End user/subscriber training is scheduled for December 2005





Tunnels

- The Big Walker Mountain and East River Mountain Tunnels now have VHF coverage.
- > The Elizabeth River Midtown and the Monitor/Merrimack Tunnels are complete and are in the testing phase.
- The Hampton Roads Tunnel and the Elizabeth River Downtown Tunnel will be complete within the next 30-45 days.
- The first draft of the Policy and Procedures manual is being reviewed.



Interoperability

The interoperability solutions within STARS will allow each locality, at the county and city level, to communicate with other STARS users through a patch activated by a STARS dispatcher. The patch will be able to interface with any radio system, regardless of the manufacturer or operating frequency. This interoperability solution will be implemented at no cost to the localities.

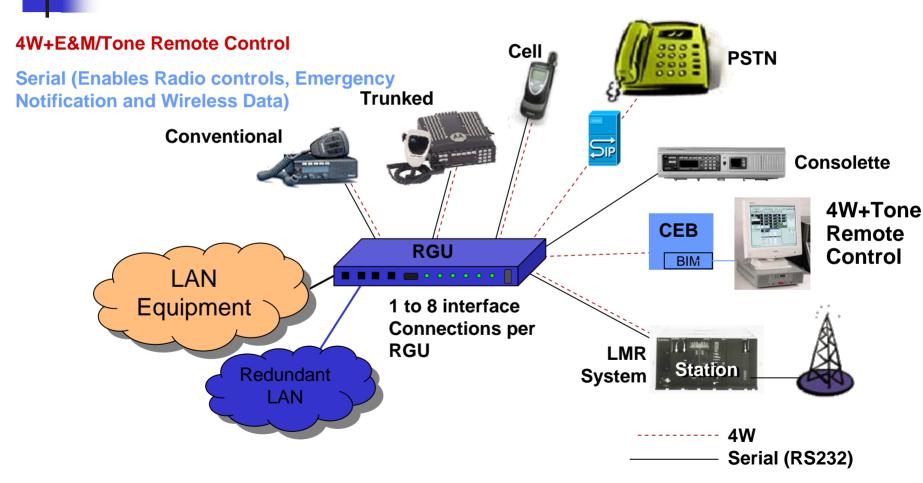


Motobridge

- A 1.5 million dollar grant has been awarded to pilot Motobridge
- Enables integration of disparate networks for interoperable communications
- Adds basic dispatch capabilities to gateway functionality
 - Can use existing consoles for access to SSRN
 - Instant Recall of Audio
- Multiple Wireless Interfaces
- Dispatch Center Connectivity
- Enables use of advanced calling features (e.g. Emergency ID)



Radio Gateway Unit Interfaces





QUESTIONS?



Break





Breakout Sessions





800 MHz Rebanding

FCC, Transition Admin, VITA

800 MHz Rebanding



What Are Your Burning Questions?



800 MHz Rebanding and Interoperability

2005 Virginia Interoperability Communications Conference Virginia Beach, Virginia

October 5, 2005





☐ OVERVIEW: 800 MHz RECONFIGURATION
■ 800 MHz & TA Overview
☐ Overview of Planning & Negotiation
□ CURRENT STATUS
☐ Where Are WE Now?
☐ Executed Frequency Reconfiguration Agreements (FRA)
☐ Where are YOU Now?
☐ INDIVIDUAL STAKEHOLDER/LICENSEE IMPACT
New Frequency Proposals: What to Expect
Expansion Band Frequency Proposals
☐ Costs & Funding
Addressing Interoperability



800 MHz Band Reconfiguration Background

The 800 MHz reconfiguration is part of the FCC's plan to address the harmful interference to public safety communication systems operating in the 800 MHz band.

Goals

- To resolve the root cause of interference to public safety radio networks
- To provide additional 800 MHz spectrum for public safety agencies

Guiding Principles

- Treat licensees equitably
- Keep disruption to a minimum for spectrum users and the public

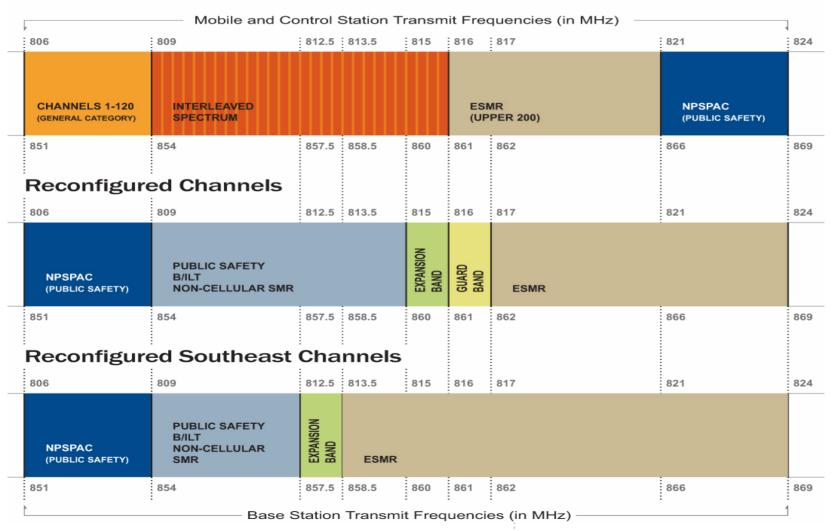
How Licensees Will Be Affected

- Public safety licensees will move to lower segments of the spectrum in the 800 MHz band
- ESMR systems will move to higher segments of the 800 MHz band
- Creation of a guard band as buffer to separate signals from different types of networks
- Band reconfiguration will have no cost to licensees



800 MHz Band: Old Channels versus Reconfigured Channels

Current Channels





The 800 MHz Transition Administrator

The 800 MHz Transition Administrator, LLC (TA) acts as a neutral party between license holders and Nextel.

The TA is mandated by the FCC to facilitate 800 MHz band reconfiguration in an expeditious, cost-effective manner with minimal disruption to licensees. The TA's responsibilities are to:

- ☐ Establish a relocation schedule
- Oversee the administrative and financial aspects of the reconfiguration process
- □ Specify replacement spectrum for relocating licensees
- Monitor and facilitate issue resolution related to the relocation process

- Approve licensee requests for planning funding
- □ Approve licensee relocation Cost Estimates/reconfiguration contracts
- ☐ Report progress of 800 MHz reconfiguration to the FCC

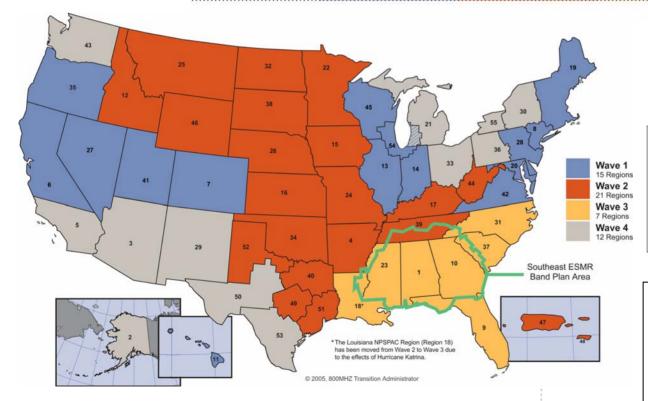


Regional Prioritization Plan

The Official Reconfiguration Manager

	WAVE 1	WAVE 2	WAVE 3	WAVE 4
Channels 1-120 Wave Voluntary Start Dates	June 27, 2005	October 3, 2005	January 3, 2006	April 3, 2006*
Earliest NPSPAC Voluntary Start Dates	February 1, 2006	May 1, 2006	August 1, 2006	November 1, 2006*

*Pending treaties with Canada and Mexico



PLEASE NOTE:

LOUISIANA, Region
18 has officially been

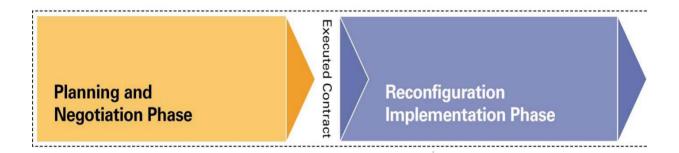
moved to WAVE 3

Channels 1-120 are the frequencies in the 806-809 MHz / 851-854 MHz band. Licensees with those frequencies reconfigure first to clear space for the NPSPAC licensees.



What are the Reconfiguration Phases?

The TA has organized the reconfiguration process and all associated activities into two phases...



Planning and Negotiation Phase objectives:

- Develop your plan for implementing the reconfiguration of your system(s)
- Negotiate and execute a contract with Nextel for the reconfiguration of your system(s)



Planning & Negotiation

The activities required for Planning and Negotiation include:

- 1. Identify, Complete & Submit Contact Information to the TA
- 2. If Necessary, Submit Request for Planning Funding
- 3. Document Subscriber Equipment and Infrastructure Facilities Inventories
- 4. Define Interoperability Environment
- 5. Evaluate Proposed New Frequencies
- 6. Prepare Cost Estimate
- 7. Negotiate Reconfiguration Contract With Nextel



□ OVERVIEW:	800 MHz	RECONFIG	URATION
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- 800 MHz & TA Overview
- ☐ Overview of Planning & Negotiation

□ CURRENT STATUS

- ☐ Where Are WE Now?
- Executed Frequency Reconfiguration Agreements (FRA)
- ☐ Where are YOU Now?

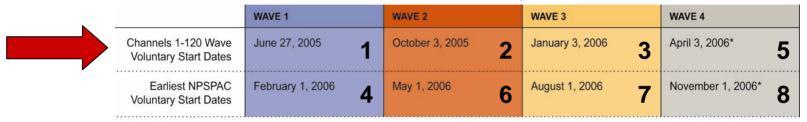
☐ INDIVIDUAL STAKEHOLDER/LICENSEE IMPACT

- New Frequency Proposals: What to Expect
- Expansion Band Frequency Proposals
- Costs & Funding
- Addressing Interoperability



Where Are WE Now?

Planning & Negotiation Windows



*Pending treaties with Canada and Mexico

Information Packet Mailing

☐ Wave 1: May 3, 2005

☐ Wave 2: August 12, 2005

■ Wave 3 & 4: TBD



Where Are WE Now? Executed FRAs

Frequency Reconfiguration Agreements (FRA)s – Summary View **as of July 31, 2005**

	Number of FRAs -	Nextel Initiated Contact with Licensee	Nextel and Licensee Reach Pre-Contract Agreement	Nextel Submits Frequency Reconfiguration Agreement to TA	TA Approves Frequency Reconfiguration Agreement	Reconfiguration Certification Verified by TA
Wave	Population	ı	Number of Frequen	cy Reconfiguration	Agreements (FRAs	
Wave 1	390	377	111	34	26	0
Wave 2	256	193	49	19	17	0
Wave 3	182	15	10	4	4	0
Wave 4	163	16	6	2	1	0
TOTAL	991	601	176	59	48	0

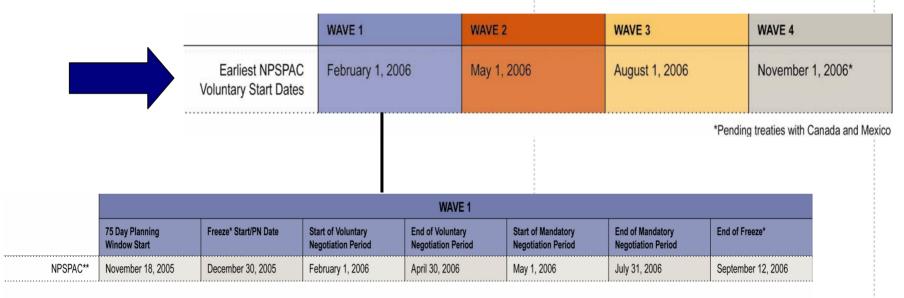
= Nextel is the data source for this information. It has not been validated by the TA.

TA Quarterly Report filed with the FCC Docket and available at www.800MHz.gov and at www.800TA.org



Where Are YOU Now?

NPSPAC: Planning & Negotiation Windows



^{*} Freezes extend 70 miles into adjacent regions that are on a different Wave

NPSPAC licensees with complex systems or circumstances that require an exception to the 75-day window should communicate in writing with both the TA (comments @800TA.org) and Nextel (via fax at 678-405-8252).

^{**} Dates for NPSPAC are tentative and subject to the conclusion of reconfiguration of the 1-120 channels in each Wave





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Treduction in toposais. What to Expect
☐ Expansion Band Frequency Proposals



New Frequency Proposals: What to Expect

In (conj	unction with the start of your assigned Wave and Stage
	lice	TA will forward a Frequency Proposal Report (FPR) to those usees who must change operating frequencies as part of onfiguration.
	Not	all of the frequencies on a license may need to be reconfigured.
		Only base station frequencies that must be reconfigured will be included in the FPR.
		Mobile and control station frequencies will be changed to appropriate frequencies in the 806-824 MHz range depending on their related base station frequencies



Expansion Band Frequency Proposals

Per the R&O, 800 MHz licensees in the new Expansion Band will be relocated unless they affirmatively elect to remain in the Expansion Band.

- ☐ If you elect to remain in the Expansion Band notify the TA at elections@800TA.org or by fax at (866) 432-8317 with your completed Expansion Band Election Form.
- ☐ Submit your elections as soon as possible but **no later than**:
 - □ September 27, 2005 for Wave 1 licensees
 - ☐ January 3, 2006 for Wave 2 licensees
 - ☐ April 3, 2006 for Wave 3 licensees
 - ☐ July 3, 2006 for Wave 4 licensees





<u>Planning Cost – Request for Planning Funding</u>

Specific planning activities required will vary based on the size and scope of your existing system.
Planning activities may be performed by your internal personnel or externa service providers and include:
 □ Legal fees associated with negotiating contract with Nextel □ Analysis of proposed new frequencies □ Inventorying subscriber equipment and infrastructure facilities □ Engineering and implementation planning □ Project management required in the Planning & Negotiation Phase
The Request for Planning Funding Form should not be used for submitting reconfiguration <i>implementation</i> costs.





Reconfiguration Implementation Costs - Cost Estimate

Specific tasks and level of detail will vary based on the size and scope of your system.
If you have a complex system, you should also prepare a separate Statement of Work (SOW) to accompany the Cost Estimate, which will define the scope and description of planned activities, schedule, milestones and deliverables as well as required resources.
Cost Estimates should define:
☐ Equipment costs
Engineering, consulting, legal fees
☐ Internal labor costs
□ Vendor costs
All other costs required to reconfigure your system





Funding Guidelines

Ч	Generally, costs that are reasonable, prudent, and necessary to obtain
	comparable facilities to those presently in use are reimbursable.
	Licensees must certify that the costs are the minimum necessary to obta

Licensees must certify that the costs are the minimum necessary to obtain comparable facilities.

☐ Costs not directly related to the 800 MHz reconfiguration effort are not reimbursable.

Documentation evidencing the costs incurred must be submitted to Nextel at the conclusion of your system reconfiguration.

This documentation will be reviewed by the TA.



Addressing Interoperability

Steps for Addressing Mutual Aid Channels and Interoperability

Determine all agencies operating on your licensed system.
Determine other systems programmed into your subscriber equipment.
Determine if NPSPAC mutual aid channels are used in your system.
Define communications approach for affected user communities.
Define your requirements for minimum disruption and document optimal solution.
Communicate and agree upon the solution with Nextel.

The TA strongly encourages licensees to identify all interdependencies and notify Sprint Nextel <u>early</u> in the reconfiguration process.



What to Expect from the TA

Independent and neutral role in the reconfiguration process
 Regional Points of Contact for questions and assistance
 Frequent communication via the TA website and information mailings
 Up to date guidance on the reconfiguration process
 Various Knowledge Sharing Activities to provide for engaging

conversation with the TA



Recommendations

Consult the TA website or attend TA Webinars for further guidance
 Understand the timeline for your system
 Be as specific as possible in your Request for Planning Funding and Cost Estimates
 Questions should be submitted formally through the Contact Center
 Take the initiative. Plan ahead, document all your activities and contact the TA if you have ANY questions or concerns.





The Official Reconfiguration Manager





Contact Information

□ Points of Contact

■ Shane Satterlund

☐ Tom Brooks, Jr.

□ TA & Regional Points of Contact:

☐ Phone: 1-888-800-8220

☐ Fax: 1-888-701-4380

☐ Email: comments@800ta.org

☐ Website: <u>www.800TA.org</u>

800 MHz REBANDING

Virginia Interoperability Communications Conference Virginia Beach, VA October 5, 2005

Robert M. Gurss

Director, Legal & Government Affairs

APCO International— Washington, DC

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Fletcher, Heald & Hildreth, PLC
(703) 812-0468, gurss@fhhlaw.com

Preliminary Steps

- Identify Frequencies
 - 806-809/851-854 MHz (Gen. Category or 1-120)
 - NPSPAC (821-824/866-869 MHz)
 - Expansion Band (815-816/860-861 MHz)
 Option to move to lower frequencies
 - Interleaved 809-815/854-860. No Moves, <u>BUT</u> check for NPSPAC Mutual Aid channels
- Determine place in TA schedule

More Preliminary Steps

- INVENTORY EQUIPMENT
 - Models, Numbers, Locations
 - Large systems may need to retain contractors to conduct inventory (cost subject to reimbursement with TA approval)
- UPDATE LICENSES
- CREATE A TEAM

Creating a Team

- Program Manager
- Technical expert
- Operational team
- Counsel
- Educating players
 - User groups/separate agencies
 - Decision makers

Funding For Planning

- Planning and Negotiation Expenses
 - Consultants/Attorneys/And Internal
 - Submit estimates to Nextel, obtain letter agreement
 - Upon TA approval, invoices can be paid directly by Nextel

PROBLEMS BREWING?

- Delays in Planning/Negotiation Funding Process
 - Major problem for large, complex systems
 - Could stall the process
 - Creates uncertainty
- Slow pace of agreements for channels 1-120.

ISSUES TO WATCH

- Software deployment from Motorola
- "Replacement" Equipment
 - Availability?
 - Is it comparable? Is it compatible?
 - Worth upgrading?
- Interoperability
 - Requires careful planning, coordination, and perhaps cost (to Nextel)

TOPICS FOR NEGOTIATION

- The details of re-banding process
- Replacement channels
- What needs to be done
- How and when will it be done
- Who will do it
- Who prepares applications
- Acceptance testing

Sources of Information

- Robert Gurss at <u>gurssr@apco911.org</u> or <u>gurss@fhhlaw.com</u>
- www.800mhz.org (APCO Alert)
- www.800ta.org (TA)

THANK YOU

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800 MHz Rebanding



QUESTIONS?



Overview of Disaster Management

Bill Kalin DM Program Management Office Disaster Management eGov Initiative



Disaster Management eGov Initiative (DM)

Bill Kalin DM Program Management Office

Virginia Interoperable Communications Conference

September 5, 2005



Presentation Overview

- Vision
- Program Overview and Goals
- Overview of Program Components
 - Disasterhelp.gov Portal
 - Disaster Management Interoperability Services
 - Data exchange standards: Facilitating the creation of information sharing capabilities between disparate incident management software applications
- Current and Future Activities



Disaster Management Vision:

A *nation* better prepared for all emergencies



Program Goals

- Provide the capability to seamlessly share incident information horizontally and vertically
- Provide free basic incident management tools
- Ensure response staff is trained and experienced in using these tools
- Encourage a culture that promotes information sharing
- Create a practitioner-driven, public private partnership to produce information exchange standards relating to incident management



Program Components

- Portal to information and services for the public and for the disaster community (www.DisasterHelp.Gov)
- Disaster Management Interoperability Services (DMIS) provides basic incident management tools and the ability to share incident information
- Data exchange standards: A public-private partnership to create information sharing capabilities between disparate incident management software applications



Portal to Information and Services

DISASTERHELP

49,011 Registered Users

Public

- 5,730Collaboration Centers
- Emergency Response
 Community

- •Aggregated disaster-related information and services
 - •Federal agencies
 - •Non-governmental organizations
 - •Preparedness & recovery services
- •Served as single source of information during recent Hurricanes Katrina and Rita

- Secure
 - Authentication driven
 - Permission based
 - •128 bit encryption
- •Multiple tools & resources
 - •Collaboration channel
 - Custom tools
 - Document repository

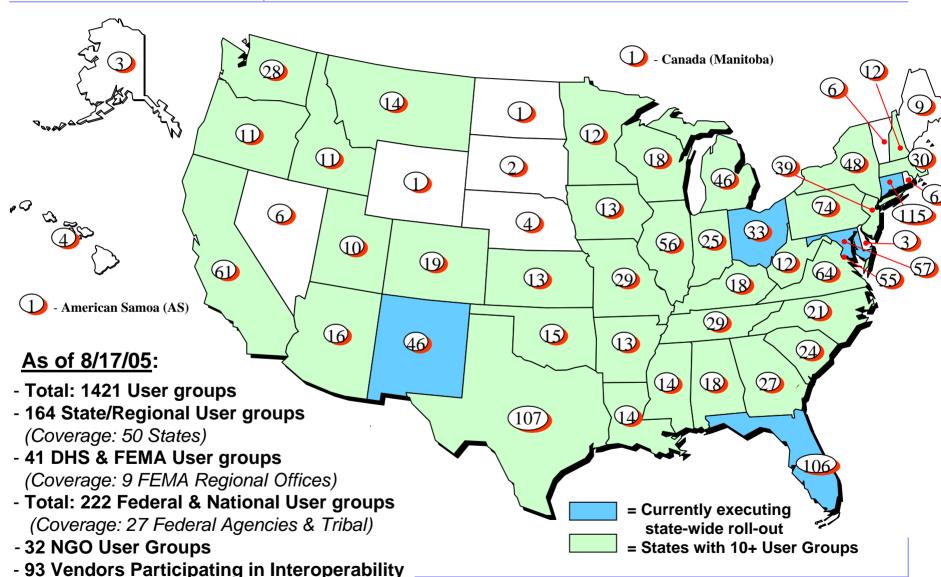


DMIS Toolset

- A basic set of tools to manage day to day and large scale incidents
 - Incident information
 - Mapping capabilities
- Communicate with and coordinate groups involved in any response
- The managing operating group decides who they will share information with
- Highly secured, available off-line
- Provided at no cost by the Dept. of Homeland Security



Registered DMIS Operating Groups





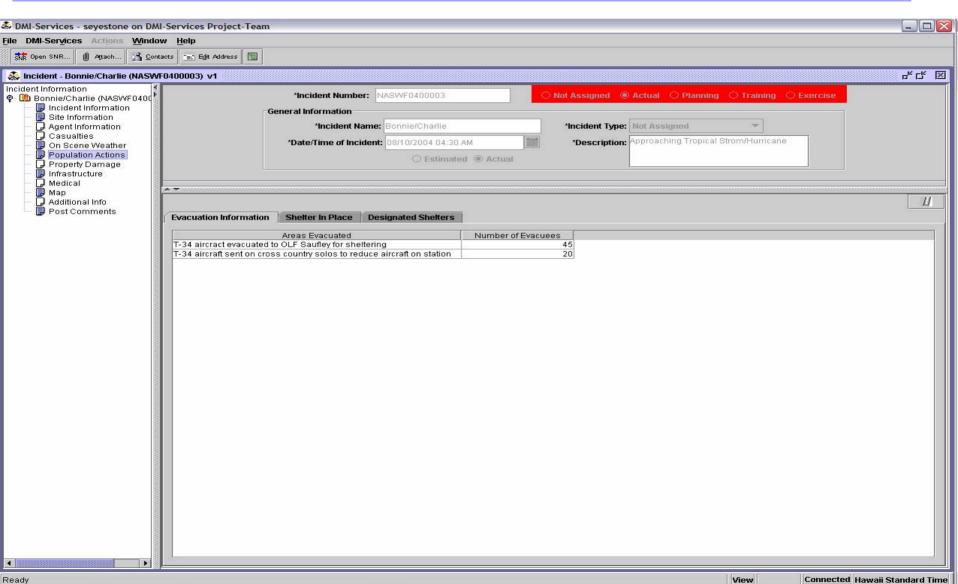
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DMIS SP1 Tng

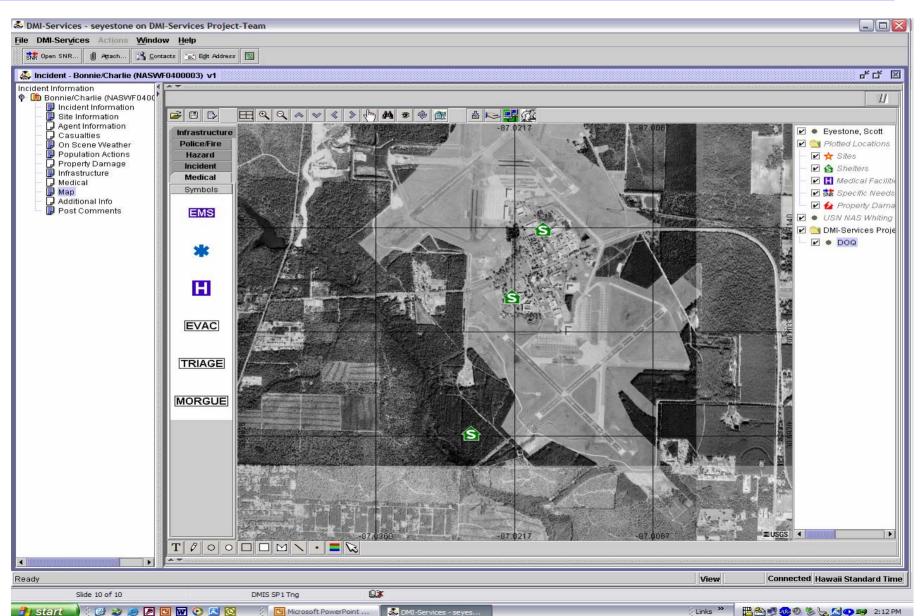
Microsoft PowerPoint ...

Homeland Security DMIS: Sample Screen Shots





Homeland Security DMIS: Mapping





The Information Sharing Problem

- Organizations & Systems cannot easily share incident information
 - 100,000 emergency response agencies
 - Some have no data standards
 - Some have their own data standards
- Cannot change everyone's system/data to "speak the same electronic language"



Incident Management Standards

- Incident management data messaging standards
 - Emergency Data Exchange Language (EDXL)
 - Common Alerting Protocol (CAP)
- National standards driven by practitioners, not federal agencies
 - **Public** standards
- Will be establishing a process to certify compliance for interoperable systems and devices
- Bridging the gap between the Haves and Have-Nots for incident management systems and the ability to share data



Incident Management Standards

- **Practitioners** define requirements and set priorities for information sharing standards
 - DM Facilitating the process, not producing
 - The practitioner-based Standards Working Group (SWG) drafts standards based requirements
 - Non-Profit Consortium of Vendors implements and demonstrates standards then submits to:
 - Formal Standards Organizations for validation and publication



Resources Provided by the DM PMO

- Provide the DMIS toolset at NO cost to local, tribal, state and federal agencies
- Provide access to technical resources on implementation EDXL standards and CAP
- Provide help desk support
- Provide the technical resources and meeting facilitation to draft resource standards



Groups Involved To Date

- Emergency management
 - Fire
 - 9-1-1, dispatch
 - EMS/emergency medicine
 - Transportation
- Public health
- CapWIN
- Federal emergency agencies
 - NOAA HazCollect
 - US Geological Survey
- Dept. Of Homeland Security National Information Exchange Model (NIEM)
- Supporting vendor communities



Current and Future Activities

- Future Standards include:
 - Distribution Element in the approval process
 - DM finalizing 'Part 1' of the Resource Messaging standard via practitioner Standards Working Group (SWG) meeting and preparing submission
 - Hospital Availability Exchange (HAVE)
- Working closely with the DHS/DOJ sponsored National Information Exchange Model (NIEM)
 - Reached agreement on DM's standards development process
 - DM to participate in the NIEM PMO and collaborate on NIEM efforts
- OASIS Technical Committee approved the Common Alerting Protocol 1.1 on September 3rd.



Response During Hurricanes

- Provided round the clock updates during Hurricanes Katrina and Rita on DisasterHelp.gov
 - How to help, volunteer and provide assets
 - Links to aid applications, agencies and missing animal and person resources
- Virginia quickly provided mobile command units to the Gulf Coast region

Contact Information

Disaster Management Program Manager

Chip Hines

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(202) 646-3115

Overview of Disaster Management



QUESTIONS?



Closing Remarks

The Honorable George Foresman Assistant to the Governor for Commonwealth Preparedness

